Mobile Platform Development for SSC Propulsion Test Operations

Completed Technology Project (2011 - 2013)

Project Introduction

For this project, the possible utility of a mobile application in combination with portable electronic tools/tablets, which could be used in real-time "in the field", at propulsion testing locations across Stennis Space Center (SSC) was assessed. The objective was to have participating field personnel consider the utility of mobile computing platforms, and assess if in combination with correspondingly developed mobile applications, could be used to collect data in the rocket engine propulsion test environment.

A review of mobile applications (apps) and portable electronic tools/mobile platforms (that could be used by propulsion testing field users at SSC) was conducted. Additionally, a preliminary prototype mobile application (app) was also initiated. In the rocket engine test environment, Test Preparation Sheets (TPS) are used to ensure safety compliance is maintained, and they serve as advisors to test directors and project engineers on all safety matters. This mobile app would enable the ability of TPS to be downloaded to a mobile platform in the field (i.e. at a test complex). Having this ability, would modernize monitoring tasks, expedite data processing, and provide real-time data input.

Anticipated Benefits

Benefits to NASA funded missions include: increased efficiencies in productivity; increased accuracy and timeliness of test documentation submission; and decreased paper waste.

Benefits to NASA unfunded missions and planned missions would be the same as those identified for NASA funded missions: increased safety, improved productivity and reduced paper waste.

Benefits to the commercial space industry would be similar to those that would benefit NASA. They would include, but not be limited to: increased productivity; increased efficiency; increased safety; and reduced environmental impact associated with paper waste.

Benefits to the other government agencies (e.g., DoD and DOE, where facility infrastructure needs to be monitored in real-time), would be similar to those that would benefit NASA: increased productivity, safety and efficiency; reduced costs; reduced environmental impact of the waste paper generated; and maximized time efficiency and management.

Logo for the Office of the Chief Technologist

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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Stennis Space Center (SSC)

Responsible Program:

Center Innovation Fund: SSC CIF

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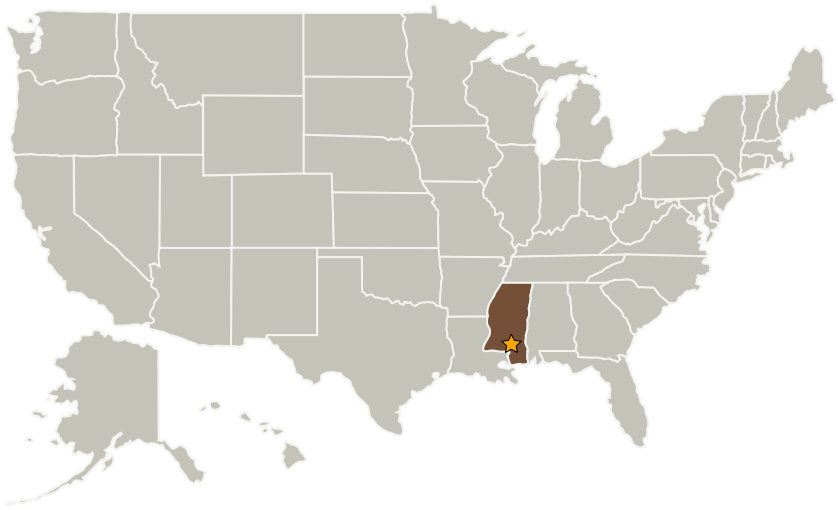
Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Stennis Space Center(SSC)	Lead Organization	NASA Center	Stennis Space Center, Mississippi
ARTS	Supporting Organization	Industry	

Primary U.S. Work Locations
Mississippi

Project Management

Program Director:
Michael R Lapointe

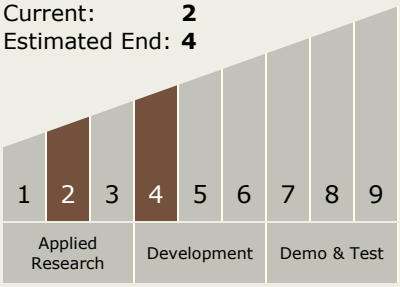
Program Manager:
Ramona E Travis

Project Manager:
Christine A Powell

Principal Investigator:
Christine A Powell

Technology Maturity (TRL)

Start: **2**
Current: **2**
Estimated End: **4**



Technology Areas

Primary:

- TX11 Software, Modeling, Simulation, and Information Processing
  - TX11.4 Information Processing
    - TX11.4.2 Intelligent Data Understanding

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Images

Office of Chief Technologist
Logo for the Office of the Chief Technologist
(https://techport.nasa.gov/image/4021)